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RE: PROPOSED AGENDA FOR OCT. 2, 2003 INTERVIEW

MESSAGE:

Exr. Guhary:

Attached is a proposed agenda for tomorrow's interview.

Best regards,
Scott Cummings

Interview

PROPOSED - NOT FOR ENTRY IN THE OFFICIAL RECORD

PROPOSED AGENDA FOR OCTOBER 2, 2003 PERSONAL INTERVIEW

I. PROPOSED DRAWING AMENDMENT

A new figure 9 (attached) is proposed to address the drawing objection. It is believed that new figure 9 provides clear support for the features of claims 34 and 36-38, without introducing any new matter.

II. PRIOR ART REJECTIONS - EVIDENCE OF DISTINCTIONS BETWEEN PRIOR ART AND CLAIMED NANOTUBES

(A) Hsu Reference

Evidence has been collected demonstrating the fundamental **structural** distinctions between the coating of "pre-formed" nanotubes of the present application and the *in situ* grown nanotube coating of the prior art.

Below is a micrograph illustrating the random and bundled nature of a coating formed from pre-formed nanotubes. When compared to the illustrations of Hsu, which show the aligned and ordered nature of the CVD grown nanotube coating of Hsu, the difference is clear.

Further physical distinctions include: the coating of Hsu requires a catalyst layer while the coating of the invention does not, nanotubes grown by CVD as in Hsu tend to be multiwalled, the pre-formed nanotube coating of the invention can comprise single-walled nanotubes.

(B) Gartner reference

Gartner fails to disclose or teach coating of any type of nanotubes, much less the coating of pre-formed nanotubes as required by the ~~present~~ invention.

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Contrary to the grounds of rejection, the choice of nanotubes vs. nanoparticles does in fact provide an technical advantage over the nanoparticles of Gartner.

For example, when considering the property of field emission, nanotubes provide superior performance and capabilities when compared to particles. The higher aspect ratio (length/width) of nanotubes provides enhanced emission properties compared to Gartner's particles.

Below is emission data reported for nanotubes. Evidence of the superiority of nanotubes is evident when compared to Figure 1 of Gartner.

Table 1. Emission characteristics of SWNT films formed by EPD and other techniques. The measurement was done using a constant DC voltage. The threshold field is defined as the electrical field required for the emission current density to reach 0.01 mA/cm^2. The current decay is calculated by $(I_{initial} - I_{final})/I_{initial}$, where $I_{initial}$ is the initial emission current and I_{final} is the emission current after 10 h of measurement.

Materials	Threshold field [V/μm]	Initial emission current density [mA/cm^2]	Emission current decay after 10 hours [%]
As-grown SWNT mat	1.3	200	50
Purified SWNT paper (made by filtration)	1.0	93	40
CVD SWNT film [a]	3.1	10	79
EPD long SWNT film	1.4	83	28

[a] Dr. Jie Liu et al., unpublished results.